

# Meeting with EPA Region VII

1- HR SO<sub>2</sub> Attainment SIP Requirements  
for the Herculanum Area

May 22, 2014

# Meeting Agenda

- ◆ Review recent REGFORM activities with regard to the Herculaneum 1- hr SO<sub>2</sub> Non-attainment area
- ◆ Present results of data collection and analysis efforts
- ◆ Discuss an option for developing a timely attainment demonstration
- ◆ Answer any questions about the data and analysis

# REGFORM Perspective

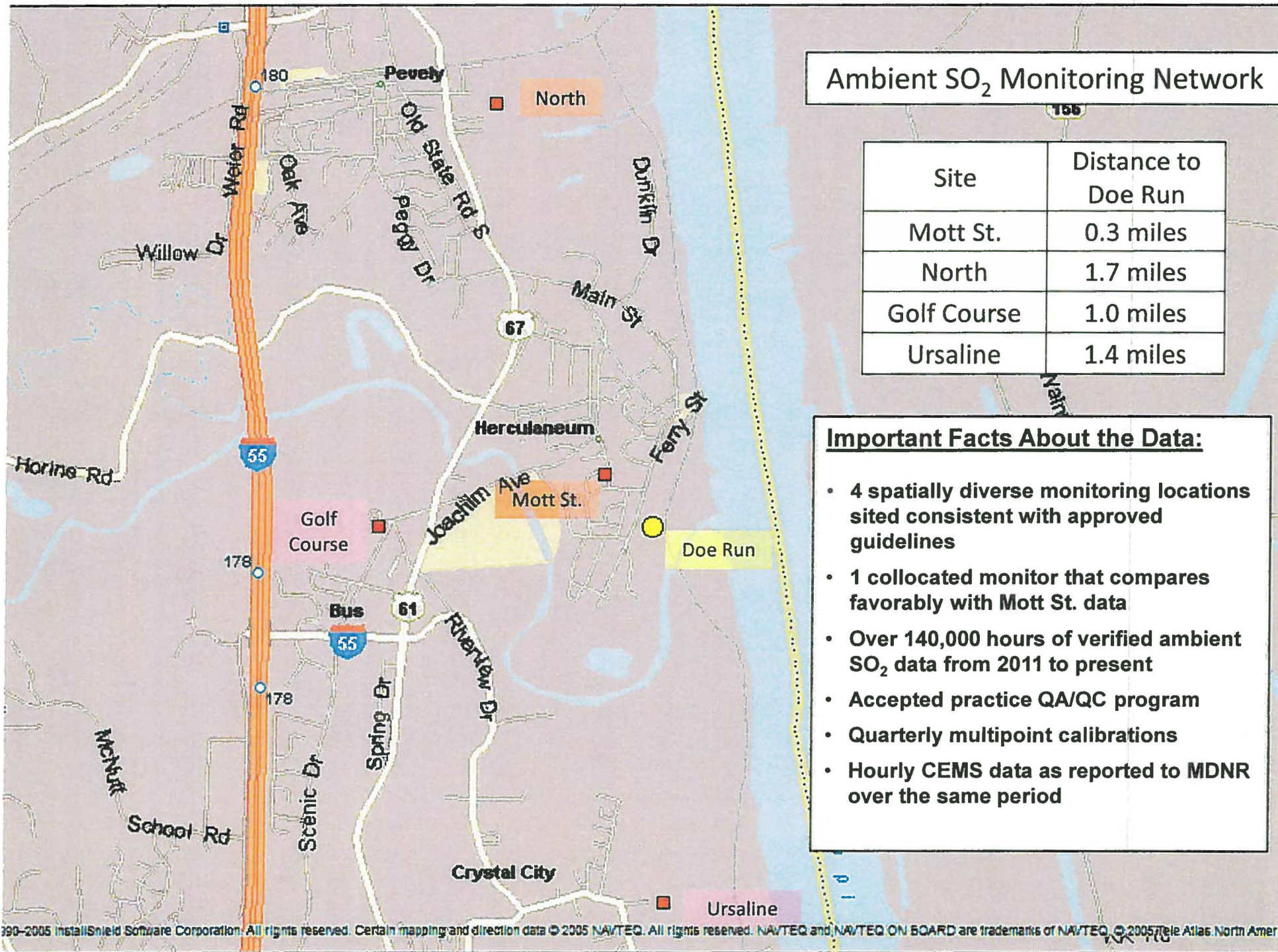
- ◆ The new 1- hour standard raises many complex issues with far reaching implications for REGFORM members.
- ◆ The Mott St. monitor was the sole driver for the Herculaneum designation.
- ◆ The permanent shutdown of the Doe Run Smelter in Herculaneum in December 2013 has had a profound impact on local air quality.
- ◆ This creates a very unique set of circumstances which provides the opportunity for an alternative but consistent approach to the attainment demonstration.
- ◆ Analysis of data from the Herculaneum monitoring network and other factors provide clear evidence that the air quality in the area is now well below the standard.
- ◆ Only time is needed to officially demonstrate actions already taken bring the area into attainment.
- ◆ Larger emitters will still be reviewed under a Phase 2 designation process along with all the other large emitters around the country.



# So What Are the Relevant Data Sets and How Robust Are They?

- ◆ To take a closer look at the local air quality we obtained historical Mott St. monitor and met data from MDNR
- ◆ We also requested and obtained emissions, ambient air quality, and met data from Doe Run
- ◆ The following describes the available data and orientation





Source: MDNR 2013 Monitoring Network Plan dated May 23, 2013

**Herculaneum, Mott Street**

AQS Site Number **29-099-0027**

**Mott Street**, Herculaneum, MO, 63048

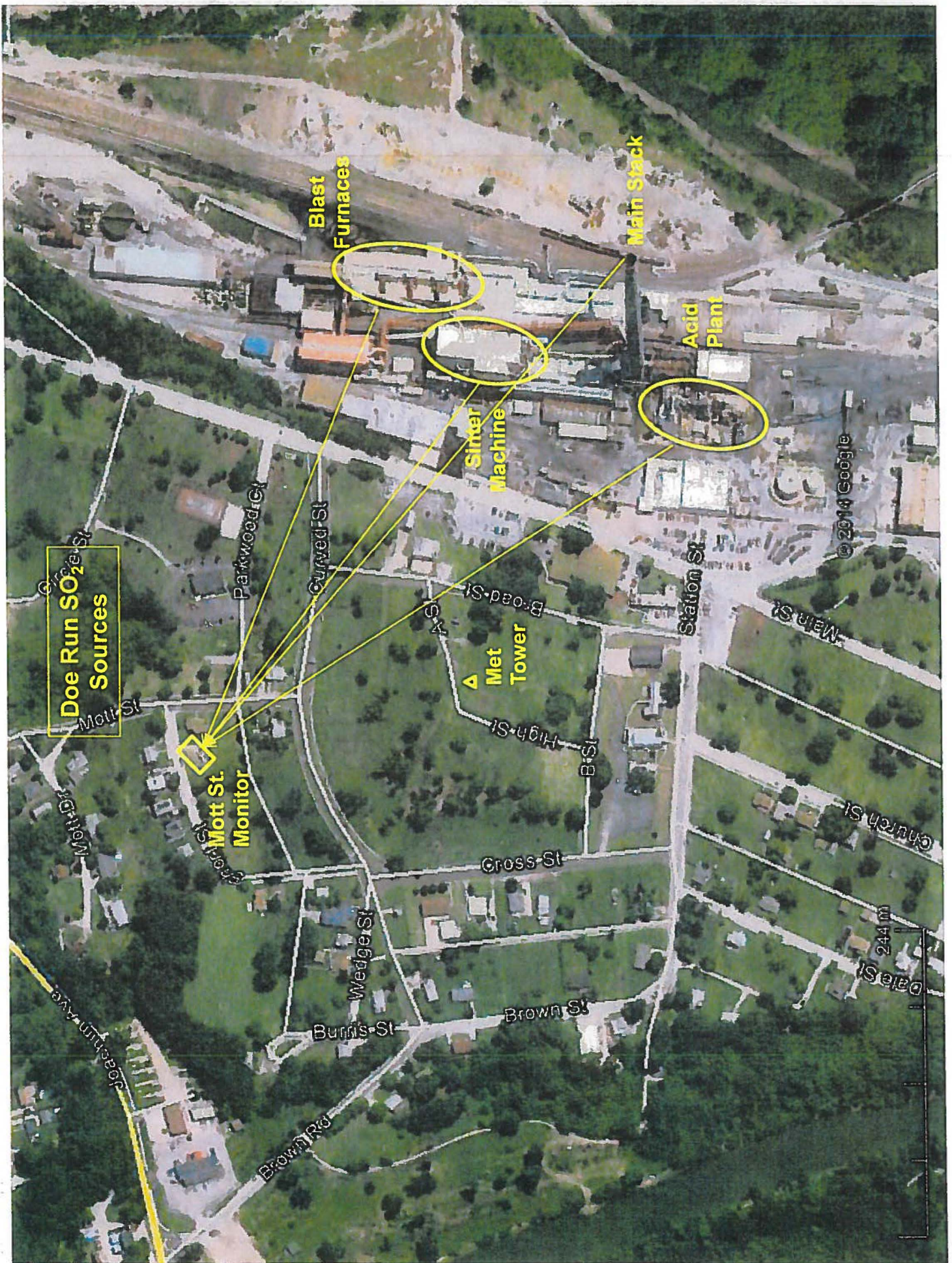
**Latitude:** 38.263394 **AQCR:** 070 Metropolitan St. Louis

**Longitude:** -90.379667 **MSA:** 7040 St. Louis, MO-IL

**Elevation (ft):** 468

<b>Pollutant</b>	<b>AQS Code</b>	<b>Monitor- Type</b>	<b>POC</b>	<b>Col</b>	<b>Freq</b>	<b>Scale</b>	<b>State- Obj</b>	<b>Unit- Code</b>	<b>Unit</b>	<b>Method- Code</b>	<b>Method</b>	<b>Monitor- Objective</b>
Ambient Temperature	68105	SPM	1	<input checked="" type="checkbox"/>	1/1	N/A	COM	017	deg C	780	Instrumental	Other
Indoor Temperature	62107	SPM	1	<input type="checkbox"/>	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Lead (TSP) - LC FRM/FEM	14129	SLAMS	1	<input checked="" type="checkbox"/>	1/1	MID	COM	105	ug/m <sup>3</sup> -LC	192	Inductive Coupled Plasma Spectrometry	Source Oriented & Highest Concentration
Sample Baro Pressure	68108	SPM	1	<input checked="" type="checkbox"/>	1/1	N/A	COM	059	mm (Hg)	780	Instrumental	Other
<b>Sulfur Dioxide</b>	42401	SLAMS	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	<b>Source Oriented &amp; Highest Concentration</b>
<b>Sulfur Dioxide Max 5-min Avg</b>	42406	SPM	1	<input type="checkbox"/>	1	MID	COM	008	ppb	060	Pulsed Fluorescent	<b>Source Oriented &amp; Highest Concentration</b>
Wind Direction - Resultant	61104	SPM	1	<input type="checkbox"/>	1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	Other
Wind Speed - Resultant	61103	SPM	1	<input type="checkbox"/>	1	N/A	MET	012	mph	067	Instrumental: RM Young Mod 05103	Other







# Impacts Result from Sources Close to the Monitor

- ◆ ... from an air quality management perspective, the SO<sub>2</sub> NAAQS can be considered to be a largely “source-oriented” NAAQS rather than a “regional” one (i.e., more similar to the lead NAAQS than to the ozone NAAQS). Strategies to attain the SO<sub>2</sub> NAAQS are expected to be focused on key point sources. (Page 10)
- ◆ The EPA and the air quality management community have recognized over many years that peak concentrations of SO<sub>2</sub> are commonly caused by one or a few major point sources in an area and peak concentrations are typically observed relatively close to the source. (Page 13)
- ◆ ... maximum concentrations can be expected to be observed within 1-2 miles of some large power plants and other facilities. (Page 9)

Source: EPA Proposed Data Requirements Rule – April 17, 2014

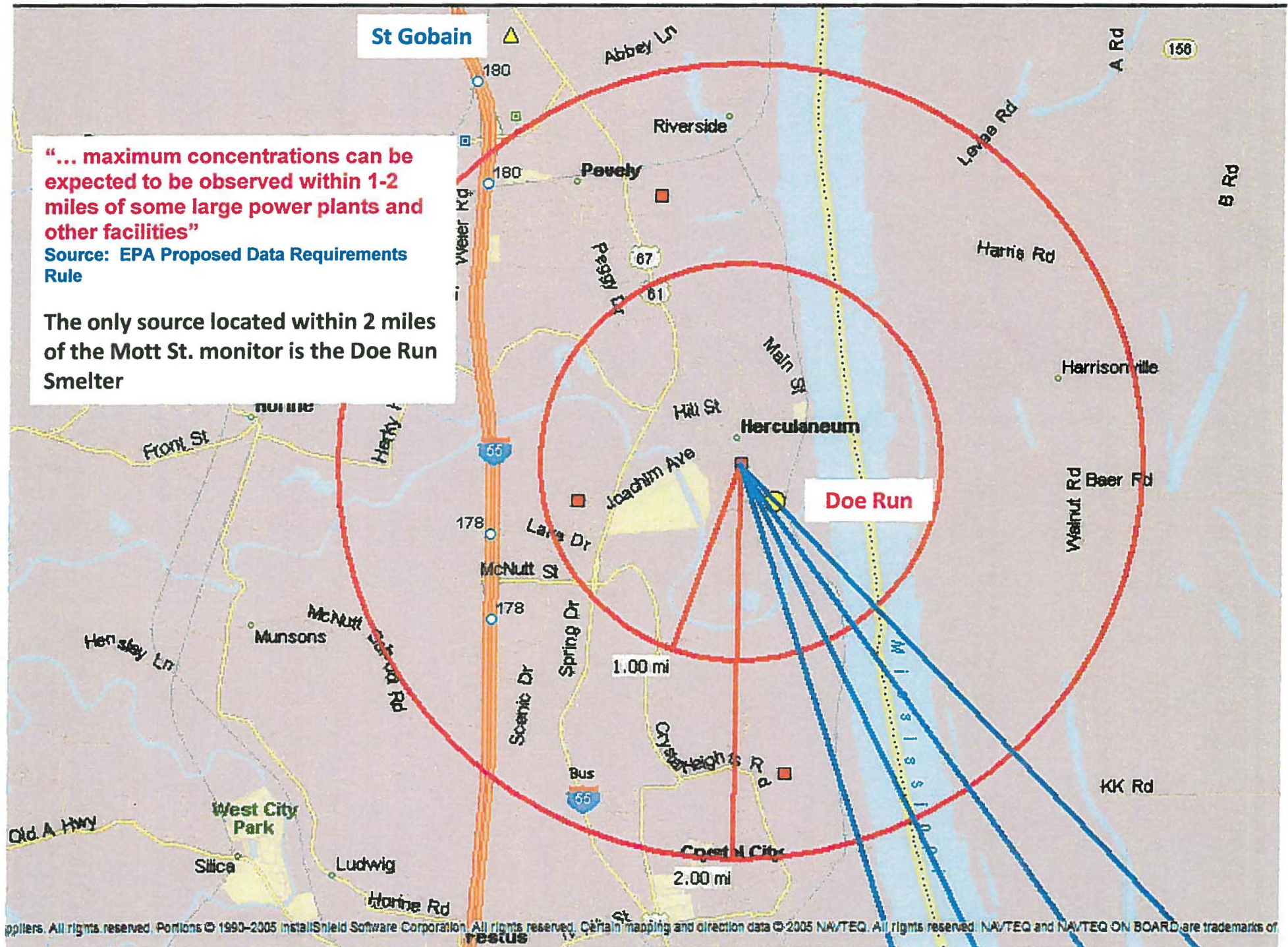


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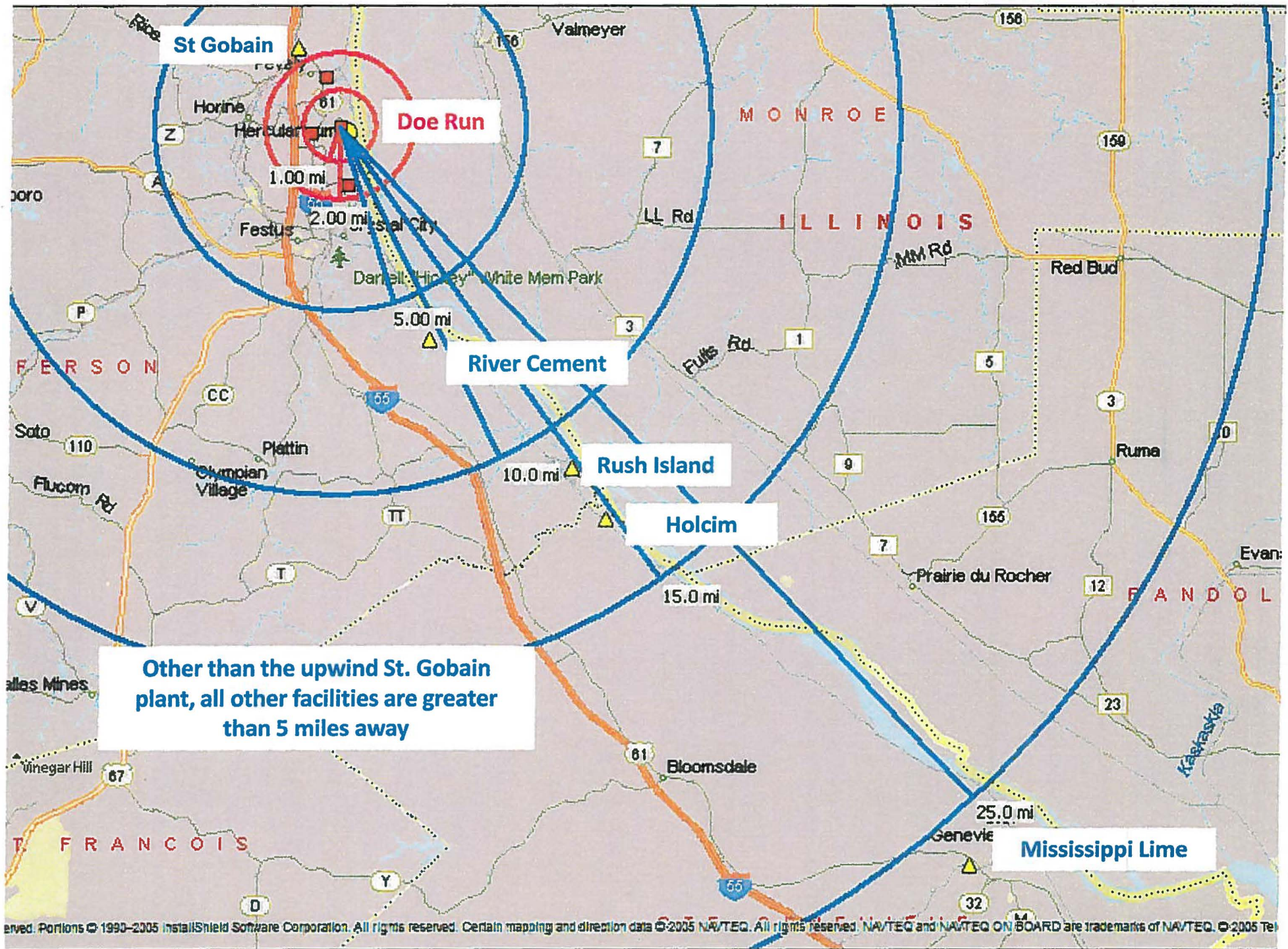
**"... maximum concentrations can be expected to be observed within 1-2 miles of some large power plants and other facilities"**

Source: EPA Proposed Data Requirements Rule

The only source located within 2 miles of the Mott St. monitor is the Doe Run Smelter









## What Do We Know About Doe Run?

- ◆ It was a large multi-point source of SO<sub>2</sub> emissions with hourly SO<sub>2</sub> emission rates sometimes exceeding 10,000 lb/hr
- ◆ It was close to and upwind of the Mott St. monitor
- ◆ It was permanently shutdown as of January 1, 2014
- ◆ The shutdown is federally enforceable
- ◆ The shutdown has had a fundamental and unmistakably positive impact on the local air quality